

Reveal Edge D (C070)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Reveal Edge D (C070)
Product code : 37842
Product type : Powder coating.
Other means of identification : Not available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use in coatings - Industrial use

1.3 Details of the supplier of the safety data sheet

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1.4 Emergency telephone number

Norwegian National Poison Centre: +47 22 59 13 00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Sens. 1, H317
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning.

Hazard statements : H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Not applicable.

Reveal Edge D (C070)

SECTION 2: Hazards identification

Prevention	: P280 - Wear protective gloves. P273 - Avoid release to the environment. P261 - Avoid breathing dust.
Response	: P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: zinc di(benzothiazol-2-yl) disulphide benzene-1,2,4-tricarboxylic acid 1,2-anhydride
Supplemental label elements	: EUH212 - Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Not applicable.
Special packaging requirements	
Containers to be fitted with child-resistant fastenings	: Not applicable.
Tactile warning of danger	: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	: None known.

SECTION 3: Composition/information on ingredients**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
titanium dioxide	EC: 236-675-5 CAS: 13463-67-7 Index: 022-006-00-2	≤3	Carc. 2, H351 (inhalation)	-	[1] [2] [*]
Aluminium powder (stabilized)	EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1	≤3	Flam. Sol. 1, H228 Water-react. 2, H261	-	[2]
zinc di(benzothiazol-2-yl) disulphide	REACH #: 01-2119493020-50 EC: 205-840-3 CAS: 155-04-4	≤1.3	Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]-	REACH #: 01-2119977073-34 EC: 247-952-5 CAS: 26741-53-7	≤0.9	Aquatic Chronic 1, H410	M [Chronic] = 1	[1]
copper	REACH #:	<1	Acute Tox. 4, H302	ATE [Oral] = 500	[1] [2]

Reveal Edge D (C070)

SECTION 3: Composition/information on ingredients

zinc	01-2119480154-42 EC: 231-159-6 CAS: 7440-50-8	≤0.19	Aquatic Acute 1, H400 Aquatic Chronic 2, H411	mg/kg M [Acute] = 10	
	EC: 231-175-3 CAS: 7440-66-6		Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	REACH #: 01-2119489422-34 EC: 209-008-0 CAS: 552-30-7 Index: 607-097-00-4	≤0.3	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	-	[1] [2] [3]
See Section 16 for the full text of the H statements declared above.					

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance of equivalent concern

[*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix. This mixture contains ≥ 1% of titanium dioxide. The Annex VI classification of titanium dioxide does not apply to this mixture according to Note 10.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Coating powders can cause localised skin irritation in folds of the skin or under tight clothing.

*Reveal Edge D (C070)***SECTION 4: First aid measures**

Caprolactam is classified as hazardous to human health and the toxicity effects are described by the following hazard statements: Harmful if swallowed or if inhaled (H302 + H332), Causes skin irritation (H315), Causes serious eye irritation (H319), May cause respiratory irritation (H335).

Contains zinc di(benzothiazol-2-yl) disulphide, benzene-1,2,4-tricarboxylic acid 1,2-anhydride. May produce an allergic reaction.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO₂ blanket, water spray or mist.
- Unsuitable extinguishing media** : Do not use water jet.
Do not use inert gas under high pressure (e.g. CO₂).

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.
Fine dust clouds may form explosive mixtures with air.

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.
- Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing dust. Refer to protective measures listed in sections 7 and 8.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Reveal Edge D (C070)

SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up : Contain and collect spillage with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not use a dry brush as dust clouds or static can be created.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Advice should be taken from a competent occupational health practitioner on the assessment of employees with skin or respiratory complaints before the individual is exposed to the uncured product.

7.1 Precautions for safe handling

Precautions should be taken to prevent the formation of dusts in concentrations above flammable, explosive or occupational exposure limits.
Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources.
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
Keep away from heat, sparks and flame.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.

During stoving/curing caprolactam will be released. Efficient oven extraction must be provided to safely discharge caprolactam from the workplace.

Welding, grinding and other hot work on the already-coated substrate may cause free isocyanates to be formed and released.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.
Keep container tightly closed.
Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
See Technical Data Sheet / packaging for further information.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

Reveal Edge D (C070)

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Dust Limit : 10 mg/m³ (TWA of total inhalable dust) and 4 mg/m³ (TWA of respirable)

Product/ingredient name	Exposure limit values
titanium dioxide	FOR-2011-12-06-1358 (Norway, 6/2021). TWA: 5 mg/m ³ 8 hours.
Aluminium powder (stabilized)	FOR-2011-12-06-1358 (Norway, 6/2021). TWA: 5 mg/m ³ 8 hours. Form: pyrophoric powder
copper	FOR-2011-12-06-1358 (Norway, 6/2021). Notes: TWA: 1 mg/m ³ , () 8 hours. Form: Dust
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	FOR-2011-12-06-1358 (Norway, 6/2021). Skin sensitiser. Notes: A TWA: 0.005 ppm 8 hours. TWA: 0.04 mg/m ³ 8 hours.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects	
zinc di(benzothiazol-2-yl) disulphide	DNEL	Long term Oral	0.6 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	1 mg/m ³	General population	Systemic	
	DNEL	Long term Dermal	1.2 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	3.3 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	5.9 mg/m ³	Workers	Systemic	
	2,4,8,10-tetraoxa-3,9-diphosphaspiro [5.5]undecane, 3,9-bis[2,4-bis (1,1-dimethylethyl)phenoxy]-	DNEL	Long term Inhalation	0.68 mg/m ³	General population	Systemic
		DNEL	Long term Inhalation	2.75 mg/m ³	Workers	Systemic
		DNEL	Long term Oral	0.39 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	0.39 mg/kg bw/day	General population	Systemic
	copper	DNEL	Long term Dermal	0.78 mg/kg bw/day	Workers	Systemic
DNEL		Long term Oral	0.041 mg/kg bw/day	General population	Systemic	
DNEL		Short term Inhalation	1 mg/m ³	General population	Local	
DNEL		Long term Inhalation	1 mg/m ³	General population	Local	
	DNEL	Long term Dermal	137 mg/kg bw/day	General population	Systemic	

Reveal Edge D (C070)

SECTION 8: Exposure controls/personal protection

zinc	DNEL	Long term Dermal	137 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	273 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	273 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.5 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	DNEL	Long term Oral	2.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	2.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	4.4 mg/m ³	General population	Systemic
	DNEL	Short term Oral	5 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	8.8 mg/m ³	General population	Systemic
	DNEL	Short term Dermal	10 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	17.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	35 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Avoid breathing dust. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain exposure to dusts below the OEL, suitable respiratory protection must be worn.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying to ISO 16321-1:2022 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

*Reveal Edge D (C070)***SECTION 8: Exposure controls/personal protection**

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves

Wear suitable gloves tested to ISO 374-1:2016.

May be used, gloves(breakthrough time) 4 - 8 hours: 4H/Silver Shield® (> 0.07 mm)

Recommended, gloves(breakthrough time) > 8 hours: neoprene (> 0.35 mm), PVC (> 0.5 mm), butyl rubber (> 0.4 mm), nitrile rubber (> 0.4 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.


The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

- Body protection** : Personnel should wear protective clothing. Care should be taken in the selection of protective clothing to ensure that inflammation and irritation of the skin at the neck and wrists through contact with the powder are avoided.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. (FFP2 / N95).
- Environmental exposure controls** : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties**Appearance**

Physical state	: Solid. Powder.
Colour	: Various.
Odour	: Odourless.
Odour threshold	: Not applicable.
Melting point (dust)	: 85 - 115 °C
Initial boiling point and boiling range	: Not applicable.
Lower explosion limit (dust)	: 30 g/m ³ (EN 14034-3)
Minimum ignition energy (mJ)	: 10 - 30 (EN 13821)
Flash point	: Not applicable.
Auto-ignition temperature	: > 400°C
Decomposition temperature	: 250°C
pH	: Not applicable.
Viscosity	: Not applicable.
Solubility in water	:  cold water Not soluble hot water Not soluble

*Reveal Edge D (C070)***SECTION 9: Physical and chemical properties****Partition coefficient: n-octanol/ water** : Not applicable.**Vapour pressure** : Not applicable.**Evaporation rate** : Not applicable.**Density** : 1.2 to 1.8 g/cm³**Vapour density** : Not applicable.**Explosive properties** : Not available.**Oxidising properties** : Not available.**Particle characteristics****Median particle size** : Not available.**9.2 Other information**

No additional information.

SECTION 10: Stability and reactivity**10.1 Reactivity** : Fine dust clouds may form explosive mixtures with air.**10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.**10.4 Conditions to avoid** : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).
Take precautionary measures against electrostatic discharges.
To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.
Prevent dust accumulation.**10.5 Incompatible materials** : Not applicable.**10.6 Hazardous decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Coating powders can cause localised skin irritation in folds of the skin or under tight clothing.

Caprolactam is classified as hazardous to human health and the toxicity effects are described by the following hazard statements: Harmful if swallowed or if inhaled (H302 + H332), Causes skin irritation (H315), Causes serious eye irritation (H319), May cause respiratory irritation (H335).

Contains zinc di(benzothiazol-2-yl) disulphide, benzene-1,2,4-tricarboxylic acid 1,2-anhydride. May produce an allergic reaction.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
zinc di(benzothiazol-2-yl) disulphide	LD50 Oral	Rat	540 mg/kg	-

Acute toxicity estimates

Reveal Edge D (C070)

SECTION 11: Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
copper	500	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
titanium dioxide	Skin - Mild irritant	Human	-	72 hours	-
2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]-zinc	Skin - Severe irritant	Rabbit	-	0.5 Grams	-
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
	Eyes - Irritant	Mammal - species unspecified	-	-	-

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
zinc di(benzothiazol-2-yl) disulphide	skin	Mammal - species unspecified	Sensitising
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	skin	Mammal - species unspecified	Sensitising

Mutagenicity

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Reproductive toxicity**Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Teratogenicity**

No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

Not available.

11.2.2 Other information

Not available.

Reveal Edge D (C070)

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.

Coating powder residues should not be allowed to enter drains or watercourses or be deposited where they could affect ground or surface waters.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
zinc di(benzothiazol-2-yl) disulphide	Acute EC50 0.71 mg/l	Daphnia	48 hours
	Acute LC50 0.73 mg/l Chronic NOEC 0.041 mg/l	Fish Fish	96 hours 89 days
2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]-	Acute EC10 15.4 mg/l	Algae	72 hours
	Acute EC50 97 mg/l Acute LC50 70.7 mg/l	Algae Fish	72 hours 96 hours
copper	Chronic NOEC 0.1 mg/l	Daphnia	21 days
	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	zinc	Acute LC50 330 µg/l Fresh water	Daphnia - Daphnia magna
Acute LC50 0.78 mg/l Fresh water		Fish	96 hours

Conclusion/Summary : This material is harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
zinc	-	-	Not readily

Reveal Edge D (C070)

SECTION 12: Ecological information**12.3 Bioaccumulative potential**

Product/ingredient name	LogP _{ow}	BCF	Potential
zinc di(benzothiazol-2-yl) disulphide	5.02	<8	low
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	0.06	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

Disposal considerations : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
08 01 11*	Waste paint and varnish containing organic solvents or other dangerous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Reveal Edge D (C070)

SECTION 13: Disposal considerations

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Type of packaging	European waste catalogue (EWC)
CEPE Guidelines	15 01 10* packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

[EU Regulation \(EC\) No. 1907/2006 \(REACH\)](#)

[Annex XIV - List of substances subject to authorisation](#)

[Annex XIV](#)

None of the components are listed.

[Substances of very high concern](#)

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Substance of equivalent concern for human health	benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Recommended	ED/71/2019	14.04.2021

Reveal Edge D (C070)

SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC : Not available.

VOC for Ready-for-Use Mixture : Not applicable.

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

Norway

Product registration number : Under declaration

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

*Reveal Edge D (C070)***SECTION 16: Other information**

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Flam. Sol. 1	FLAMMABLE SOLIDS - Category 1
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
Water-react. 2	SUBSTANCES AND MIXTURES WHICH IN CONTACT WITH WATER EMIT FLAMMABLE GASES - Category 2

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Notice to reader

Reveal Edge D (C070)

SECTION 16: Other information

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.